EG&G ROCKY FLATS

INTEROFFICE CORRESPONDENCE

DATE April 5, 1991 CWA-KW-159-91

TO N Demos, Environmental Monitoring & Assessment, Bldg T130B, Ext 5951

FROM K Woldow, Clean Water Act Division, Bldg T130B, Ext 6078

SUBJECT EXPANSION OF WATER QUALITY SAMPLING PROGRAM IN SEGMENT 5 AT RFP

1 0 Introduction

In 1989, the Colorado Water Quality Control Commission (CWQCC) resegmented Walnut and Woman Creeks and promulgated strict stream standards for Segment 4 waters At the time of the hearings, it was decided that application of the strict standards to upstream water in Segment 5 (essentially consisting of the A, B, and C series ponds in the RFP buffer zone) would begin at the next triennial review unless DOE could present sufficient evidence to convince the commission that the ambient water quality in the pond series was not within the standards (intended to represent "background" water quality) It was strongly suggested that DOE begin a sampling program designed to characterize water quality in the onsite ponds relative to the standards, so that when the question was again considered it would be possible to assign standards to Segment 5 appropriate to the water and its uses

In 1990, the Environmental Monitoring and Assessment Division (EMAD) of EG&G's Environmental Restoration department began a sampling program in the three terminal ponds (A-4, B-5, C-2) which complied with the intent of the commission This program (see Attachment 1 "Sampling of Detention Ponds in Support of the Environmental Restoration Program at Rocky Flats", 22415/R1 TS 02-21-91/RPT) combined sampling of the large ponds by depth and location for zonation effects with monthly analysis for the full list of CWQCC standard parameters It is now proposed to extend this characterization effort to the rest of the detention ponds onsite, sampling and analyzing on a monthly basis, to fully support DOE's need for this information at the upcoming hearing

2 0 Scope

Only the onsite numbered ponds not currently sampled for the full list in the three drainage series (A-1, A-2, A-3, B-1, B-2, B-3, B-4, C-1) and the Raw Water pond will be added as part of this program

The ponds will be sampled appropriately so that analytical determination for all of the long list (GRRASP) parameters may be done Other water quality parameters not within the long list (Attachment 1, Table 2) will be taken on that same basis they already are without modification, save for field tests done at the time of sampling

The program will be initiated in April, 1991, and continue for one full year with samples being collected and analyzed on a monthly basis

Funding for the first six months shall be provided from funds identified by EMAD as being available because of interruptions in regular programs during the first quarter, and afterward by money from CWAD's budget. Peer review of the program will be through CWAD and their contract with Wright Water Engineer

Sampling will be done according to standardized EMAD procedures, and analysis contracted to offsite laboratories through EMAD and subject to the QA/QC programs required by them

3 0 Sampling Program

The following assumptions are made regarding conditions within the ponds to be added to the ongoing sampling program

A. Those ponds which are operated in a flow-through mode are well-mixed enough that an off-shore grab sample will be sufficient to use as characterization of the pond's water quality The ponds included in this designation are B-3, B-4, and C-1

B Those ponds which are particularly small will also be nondifferentiated by depth, and can be sampled by an off-shore grab (per EMAD procedure, this method uses a 12' stainless steel boom to collect a subsurface sample) The ponds falling under this designation are A-1, B-1, and B-2

C. If those ponds not particularly small or operated as flow-through ponds have internal temperature, pH, and/or DO stratification, it will act similarly to the same phenomena when found in the large, terminal ponds already characterized by EMAD study of basic water quality indicators The ponds within this category are A-2 and A-3

Because mixing occurs at A-2 as the spray evaporation system pumps water out of A-2 to the spray heads over both ponds A-1 and A-2, A-2 will be considered homogeneous enough to be sampled by the off-shore grab method Therefore, A-3 is the only pond for which conditions from the terminal ponds will be extrapolated regarding the likely existence and effects of depth zonation which could affect water quality Sampling at A-3 is to be done by depth-integrated composite when the pond is greater than half full, and by off-shore grab when the water level is below half of the pond's capacity

At those times when the ponds are ice-covered, or other climatic factors (such as high winds) prevent sampling from a boat, the terminal ponds and A-3 shall be sampled via off-shore grab rather than depth-integrated composite

4 0 Data Use

The information gained through this program is for use at the CWQCC hearings to be held in 1992 on the subject of extending and finalizing the Segment 4 and 5 site-specific standards The data is intended to generate a characterization of the ambient water quality within the series of detention and treatment ponds in the RFP drainage relative to the extended list of parameters, per the commission's request to DOE

Any questions or comments about this request or the proposed program should be addressed to Kitty Woldow extension 966-6078

KW fm

Attachment
As Stated

cc
M Arndt
S Barros
J Dick
L Dunstan
P. Folger
F Hobbs
M Levin
K Schoendaller